REMARKS/ARGUMENTS

Status of the Application

In the office action, claims 1-6, 8-10 and 13 were rejected. In the present Response, no amendments, deletions, or additions have been made to the claims so that claims 1-6, 8-10, and 13 are pending. No new matter has been added.

Rejections Under 35 U.S.C. § 103(a)

Rejections over Maag, Takeda and/or Brehm

Claims 1-6, 8 and 13 were rejected under 35 U.S.C. §103(a) as being unpatentable over WO 99/26733 to Herberts (which corresponds to DE-A-197 57 082 to Maag) in view of U.S. Patent No. 4,615,915 to Takeda, and further in view of U.S. Patent No. 5,596,043 to Brehm.

As to claims 2-4, 6 and 13, the Examiner asserts that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used phosphoric acid esters in the surfacer coating composition of [] [Maag] comprising chemically crosslinking epoxy-amino resin with the expectation of providing the desired acceleration of curing since Takeda et al. teach that phosphoric acid esters can be used for acceleration of curing a painting composition comprising epoxy-amino resin." The Examiner further asserts that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used methacrylates of cycloaliphatic alcohols such as isobornyl methacrylate as methacrylate reactive thinner in [] [Maag] in view of Takeda et al ... for the use in automotive coatings since Brehm et al teach that monofunctional reactive thinners, such as isobornyl methacrylate is suitable for the use in a radiation curable coating composition in combination with acrylic prepolymers."

Specifically, the Examiner asserts that Maag "discloses all of the steps recited in claim 1 such as a) applying to *optionally* pre-coated metal or plastic surface ... a surface coating composition for automotive repair lacquering ... comprising 100% ... of a prepolymer having molecular mass of **200**-10,000 and containing on average **2** to 20 olefinic double bonds per molecule (a binder A) ... and 1 to 50 wt. % of a reactive monosaturated diluent, e.g. esters of methacrylic

acid ... and a chemically crosslinking binder ... (i.e. a *liquid* surfacer coating composition), b) curing the applied surfacer coating composition by irradiation with high energy radiation ... ; c) applying a top coat layer comprising a color-imparting and/or special-effect-imparting base lacquer layer and a transparent clear lacquer layer, or a top coating comprising a pigmented one-layer top lacquer ... to the cured filler layer and curing the top coat layer...." The Examiner further asserts that column 4, lines 32-40 discloses that "[a]ny two-component binder system based on a hydroxy-functional and an isocyanate-functional component, a hydroxy-functional and an anhydride component, a polyamine component and an epoxy component or a polyamine component and an acryloyl-functional component may, for example, be used as chemically cross-linking binders". Finally the examiner alleges that column 6, lines 56-59 of Maag discloses that "[*t*]*he temperatures* generated on the coating by means of the UV irradiation (UV flash lamp) are generally sufficient to cure the additional cross-linkable binders", and therefore "[n]o separate curing operation is necessary."

The Examiner, however, correctly notes that Maag "fails to teach that the surfacer coating composition comprises at least one compound having at least one phosphoric acid group (Claim 1) in an amount of 1-15 wt. % (Claim 5)." The Examiner further correctly notes that Maag and Takeda both "fail[] to teach that the esters of methacrylic acid are esters of cycloaliphatic alcohols [claim 1] such as isobornyl methacrylate (Claim 8)."

With regard to the missing phosphoric acid limitation, the Examiner turns to Takeda, which the Examiner asserts, discloses at column 3, lines 39-43 and 56-59 "that phosphoric acid esters can be used for acceleration of curing a painting composition comprising epoxy-amino resin".

With regard to the missing 1-15 wt.% limitation, the Examiner asserts that in accordance with the holding of Akzo v. E.I. du Pont de Nemours, 1 USPQ2d 1704 (Fed. Cir. 1987), "concentration limitations are obvious absent a showing of criticality." As a result, the Examiner claims "it would have been obvious to one of ordinary skill in the art at the time the invention was made to have discovered the optimum or workable ranges of concentration limitations of a compound having at least one phosphoric acid group (including those of claim 5) in [] [Maag]

the optimum or workable ranges of concentration limitations of a compound having at least one phosphoric acid group (including those of claim 5) in [] [Maag] in view of Takeda et al by routine experimentation in the absence of a showing of criticality."

With regard to the missing cycloaliphatic alcohol and isobornyl methacrylate limitations, the Examiner turned to Brehm, which the Examiner asserted discloses "that monofunctional reactive thinners, such as isobornyl methacrylate ...may be used in combination with acrylic prepolymers ... in a radiation curable coating composition ... for coating automobile parts ... to provide good flow properties of the coating composition and thereby good processibility ...." In light of the Examiner's assertion that Sinclair & Carroll Co. v. Interchemical Corp., 325 U.S. 327 (1945) "held that the selection of a known material based on its suitability for its intended use supported a prima facie case of obviousness", it appears that the Examiner is asserting that a prima facie case of obviousness has been made as to Brehm.

Applicants, however, respectfully submit that the disclosures of Maag, Takeda and Brehm expressly teach away from each other, and therefore the Examiner's combination of these references is improper. Indeed, subsection X., D., 2. of Section 2145 of Revision 1 of the 8th edition of the MPEP teaches that "[i]t is improper to combine references where the references teach away from their combination." Applicant's call the Examiner's attention to column 5, lines 17-29 of Takeda wherein Takeda expressly teaches that "the suitable thickness of the primer film is not more than 15 microns, preferably not more than 5 microns." In fact, Takeda teaches that foaming tends to occur when the coatings are thicker, and indicates that "vigorous foaming or bumping occurs when the thickness of the coated film exceeds 15 microns."

In stark contrast, Maag teaches at column 6, lines 33-52 that one of the primary advantages of his coating process is the ability to apply his surfacer coating in a high layer thickness. Indeed, Maag teaches that these high layer thicknesses are "for example, from 200 to 400, preferably 300 to 400 µm [which is equivalent to 300 to 400 microns]". Moreover, the surfacer coating of Maag is applied in the examples at a thickness layer of approximately 300 microns. (See

each other. Indeed, based on the teachings of the two references, a person of ordinary skill in the art would not have expected the coating taught by Takeda to produce an acceptable coating having a thickness greater than 15 microns, nevertheless in the 200 to 400 micron range.

Moreover, Brehm discloses at column 6, line 6 to column 7, line 4 that "[t]he coating agent should be applied to plastic articles in such a way that the thickness of the cured coating layer is 1-50 micron, preferably 5-30 micron", and that "[t]hicknesses above 50 microns can lead to cracking when the coating is subjected to flexural stress." In light of the fact that Maag indicates his coatings are to be applied in thicknesses ranging from 200-400 microns, and Brehm indicates that his coatings crack when applied in thicknesses greater than 50 microns, the two references clearly teach away from each other.

Indeed, a person of ordinary skill in the art would not expect a coating that either cracks when applied in a thickness greater than 50 microns in accordance with Brehm, or foams at a thickness greater than 15 microns in accordance with Takeda to be combinable with a coating that is to be applied at a 200-400 micron thickness in accordance with Maag. As Maag, Takeda and Brehm were improperly combined, the Examiner has failed to establish a prima facie case of obviousness. Accordingly, Applicants respectfully request that the Examiner withdraw all of the rejections predicated on the combination of Maag, Takeda and Brehm.

Even if the references did not teach away from each other, the references would still not be combinable. Indeed, Section 2143.01 of Revision 1 of the 8th ed. of the MPEP indicates that "[t]he mere fact that references <u>can</u> be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination." As Applicants have already pointed out hereinabove, Maag, Takeda, and Brehm do not suggest the desirability of such a combination, but rather indicate that such a combination would, based on desired coating thicknesses, be very undesirable. As a result, Applicants respectfully assert that the Examiner has failed to establish a prima facie case of obviousness, and therefore respectfully request that the Examiner withdraw all rejections based on the combination of Maag, Takeda, and Brehm.

Moreover, Applicants respectfully assert that the Examiner is using hindsight reconstruction to arrive at Applicants' claimed invention. In fact, Applicants believe the requisite motivation to combine Maag, Takeda and Brehm is not coming from the references themselves, but rather from Applicants' specification. Indeed, it appears as if the Examiner, in direct contravention of the statutory mandate of section 103 requiring obviousness to be judged at the point in time when the invention was made, is using Applicants' disclosure as a blueprint to reconstruct their claimed invention from isolated pieces of Maag, Takeda and Brehm. *See, Grain Processing Coro. v. Am. Maize-Prods. Co.*, 840 F.2d 902, 907 (Fed. Cir. 1988).

In fact, the conflicting coating thicknesses of Maag, Takeda and Brehm irrefutably establish that the Examiner simply reconstructed Applicants' claimed invention by selecting isolated pieces of each reference. Indeed, the Examiner did not cast her thoughts back to the point in time when Applicants' invention was made, but simply arrived at Applicants' claimed invention by following the road-map contained in Applicants' disclosure. If the Examiner had reviewed Maag, Takeda and Brehm with an eye to what a person of ordinary skill in the art would have thought upon reviewing the entire—and NOT just pieces—of the disclosure of each reference, the Examiner would have understood the limitations that Takeda and Brehm place on the thicknesses of their coatings to lead a person of ordinary skill in the art away from combining either of these references with Maag.

As the Examiner's combination of Takeda, Brehm and Maag is erroneously based on isolated pieces of each of these references, the Examiner is engaging in impermissible hindsight reconstruction, and therefore the Examiner has failed to establish a prima facie case of obvious. Accordingly, Applicants respectfully request the Examiner withdraw all rejections predicated on the combination of Maag, Takeda and Brehm.

Additionally, Applicants respectfully assert that based on the conflicting coating thicknesses of Maag, Takeda and Brehm, a person of ordinary skill in the art would not have reasonably expected the coatings disclosed by Takeda and Brehm to be combinable with the coating disclosed by Maag. To the contrary, as already indicated hereinabove, the disclosures related to coating

thicknesses would have actually led a person of ordinary skill in the art away from such a combination. As a result, the Examiner has failed to establish a prima facie case of obviousness, and therefore Applicants respectfully request that the Examiner withdraw all rejections predicated on the combination of Maag, Takeda and Brehm.

Finally, Applicants respectfully assert that Takeda and Brehm are non-analogous prior art, and therefore cannot form the basis for a 35 USC § 103 rejection. Indeed, section 2141.01(a) of revision 1 of the 8th edition of the MPEP indicates that "[i]n order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned. *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992)." What is "reasonably pertinent" is identified in section 2141.01(a) of the MPEP as being a reference, "even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals logically would have commended itself to an inventor's attention in considering his problem." *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992).

In fact it becomes evident upon reviewing the disclosures of Takeda and Brehm as a whole that neither Takeda, nor Brehm are either in the field of automotive repair coatings, or reasonably pertinent to the particular problem with which Applicants were concerned.

To the contrary, Takeda indicates at column 1, lines 6-8 that he is concerned with "forming a thick coated film on the welded joint part of a welded metallic can." Upon further review of Takeda, it becomes clear that the metallic cans with which Takeda is particularly concerned are those cans designed to hold carbonated beverages, i.e. soda pop cans. In fact, Takeda is even more particularly focused on formulating a coating that is capable of favorably coating the welded portion of the can, and not necessarily the entire can. See column 1, lines 11-31 and lines 65-68 and column 2, lines 1-30.

Moreover, Brehm indicates at column 1, lines 9-14 that his "invention relates to UV-curable scratch-resistant coatings for plastics, particularly scratch-resistant varnishes having thickeners which become bound in the composition of

the varnish by polymerization ... when the varnish is used." In particular, it becomes evident upon more closely reviewing Brehm that Brehm is concerned with providing transparent plastics—and NOT metallic automotive bodies or parts thereof—with a more scratch resistant coating.

In contrast, Applicants expressly indicate at page 1, lines 5-8 that their "invention relates to a process for multilayer coating, in particular repair coating of substrates," wherein the process is "used in the field of automotive and industrial coatings." More particularly, it becomes evident upon reviewing Applicants' disclosure that their claimed coating process is concerned with coating metallic substrates, such as automotive bodies and parts thereof.

Furthermore, neither Takeda, nor Brehm are reasonably pertinent to the problem with which Applicants were concerned.

Indeed, both Takeda and Brehm fail to indicate anywhere therein that their coating compositions either would, or could produce a coating composition that when used in an automotive repair coating process in accordance with Applicants' claimed invention would exhibit the following characteristics: a) excellent adhesion to a metallic substrate, b) no edge marks when overcoated with further coating layers, and (c) a balanced relationship between good stability and good flow. Although the Examiner conclusorily states that a person of ordinary skill in the art would expect the coatings of Brehm to have good flow properties no matter to what substrate they are applied, Applicants respectfully request that the Examiner identify where Brehm indicates that such properties can be achieved by adding the isobornyl methacrylate of Brehm to a composition that is to be applied via a repair coating process to a metallic—NOT plastic—substrate. In fact, Brehm indicates at column 2, lines 26-67 that he is concerned with producing thickeners that have better weatherability than those currently available, wherein the thickeners enable a more scratch resistant and yet clear, i.e. non-cloudy coating to be produced to a plastic substrate.

Furthermore, Takeda is concerned with applying a thick coating to the welded portion of a can via a two-step process so as to effectively cover the welded portion of the can with a smooth coating that does not foam. Takeda is additionally concerned with producing a coating on the welded portion of the soda can that 1) imparts corrosion and sulfide resistance to the soda can, 2) properly

adheres to the welded portion of the soda can without adhering to unwanted portions of the can, 3) is stable, 4) can be applied in a uniform thickness, i.e. does not vary in thickness, and 5) does not block flow passages of the equipment used in applying the coating. See, Takeda column 1, line 21 to column 3, line 3. Takeda further indicates at column 3, lines 29-38 that the aforementioned objectives can be met via a method comprising a first step of coating the welded joint of the soda can with a primer composed of a solution of a thermosetting resin in an organic solvent and drying it, and a second step of coating the dried primer layer with a slurry paint, and drying the coating layer.

As both Takeda and Brehm fail to indicate anywhere therein that their coating compositions either would, or could produce an acceptable automotive repair coating possessing the coating characteristics afforded by Applicants' claimed repair coating process, neither Takeda, nor Brehm would have logically commended theirselves to the attention of a person of ordinary skill in the art seeking to produce an automotive repair coating possessing the characteristics of the repair coating produced in accordance with Applicants' claimed repair coating process.

As neither Takeda, nor Brehm are either in the field of Applicant's endeavor, or reasonably pertinent to the particular problem with which Applicants were concerned, Applicants respectfully assert that Takeda and Brehm are non-analogous prior art that cannot form the basis for a 35 USC § 103 rejection. Accordingly, Applicants respectfully request that the Examiner withdraw all of the rejections predicated on Takeda and Brehm.

Rejections over Maag, Richard and/or Brehm

Claims 1-6, 8-10 and 13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over WO 99/26733 to Herberts (which corresponds to DE-A-197 57 082 to Maag) in view of U.S. Patent No 5,091,211 to Richard, and further in view of Brehm.

The Examiner asserts that "[i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified a radiation curable surfacer coating composition of [Maag] ... by adding a compound having phosphoric acid group and a double bond such as

methacryloyl-modified phosphoric acid derivative with the expectation of providing the surfacer coating composition with the desired improvement of adhesive properties of the composition toward plastic substrates, as taught by Richard." The Examiner further asserts that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used methacrylates of cycloaliphatic alcohols such as isobornyl methacrylate as methacrylate reactive thinner in [] [Maag] in view of Takeda et al ... for the use in automotive coatings since Brehm et al teach that monofunctional reactive thinners, such as isobornyl methacrylate is suitable for the use in a radiation curable coating composition in combination with acrylic prepolymers."

In reaching this conclusion the Examiner reasserted the same arguments as already set forth hereinabove regarding Maag.

The Examiner, however, once again correctly noted that Maag "fails to teach that the radiation curable surfacer coating composition comprises at least one compound having at least one phosphoric acid group (Claim 1) in an amount of 1 -15 wt. % (Claim 5) or a compound having phosphoric acid group and a double bond (Claim 9) such as methacryloyl-modified phosphoric acid derivative (Claim 10)", and that Maag "in view of Takeda et al or Richard, as applied above, fails to teach that the esters of methacrylic acid are esters of cycloaliphatic alcohols (Claim 7) such as isobornyl methacrylate (Claim 8)."

In addressing the absence of the at least one phosphoric acid group, the compound having phosphoric acid group and a double bond, and the methacryloyl-modified phosphoric acid derivative limitations, the Examiner turned to Richard, which the Examiner alleges teaches at column 1, lines 57-60 and at column 2, lines 1-2, 10-15 & 37 "that addition of a compound having phosphoric acid group and a double bond such as methacryloyl-modified phosphoric acid derivative ... to a radiation curable coating composition improves adhesion bond of the coating to a plastic substrate ...."

With regard to the missing weight percentage range of claim 5, the Examiner reasserted the same arguments as already set forth hereinabove.

With regard to the missing cycloaliphatic alcohol and isobornyl methacrylate limitations, the Examiner reasserted the same arguments as already set forth hereinabove.

Applicants respectfully reassert all of the same arguments already set forth hereinabove regarding Maag, Takeda and Brehm.

In light of the improper combination of Maag, Takeda and Brehm, all of Applicants' claim limitations have not been suggested or taught in accordance with the requirements of Section 2143.03 of Revision I of the Eighth Edition of the MPEP, and therefore a *prima facie* case of obviousness has not been established as to Maag and Richard in combination.

Moreover, Applicants respectfully assert that the Examiner is using hindsight reconstruction to arrive at Applicants' claimed invention. In fact, Applicants believe the requisite motivation to combine Maag and Richard is not coming from the references themselves, but rather from Applicants' specification. Indeed, it appears as if the Examiner, in direct contravention of the statutory mandate of section 103 requiring obviousness to be judged at the point in time when the invention was made, is using Applicants' disclosure as a blueprint to reconstruct their claimed invention from isolated pieces of Maag and Richard. *See, Grain Processing Coro. v. Am. Maize-Prods. Co.*, 840 F.2d 902, 907 (Fed. Cir. 1988).

In fact, the Examiner's combination of two references in unrelated fields indicates that the Examiner is simply using hindsight to reconstruct Applicants' claimed invention. Indeed, a person of ordinary skill in the art would not logically look to coatings used in coating vinyl floors to develop an improved automotive repair coating process for coating metallic automotive bodies and parts thereof in accordance with Applicants' claimed invention.

Although the Examiner asserts that Richard's combinability with Maag springs forth from Maag's reference to plastic substrates, this argument rings hollow. Maag is clearly concerned with coatings in the automotive repair coating field – NOT the vinyl floor manufacturing field—and therefore a person of ordinary skill in the art would not have looked from Maag to Richard simply because Maag makes a passing reference to plastic substrates. The Examiner is clearly backing the teachings of Richard into Maag in an attempt to reconstruct Applicants' claimed repair coating process with the improper use of hindsight. Indeed, a person of ordinary skill in the art would not have looked to the vinyl floor coatings of Richard at the point in time when Applicants' claimed invention

was made simply because Maag referred to plastic substrates. Indeed, the Examiner's argument leads to the illogical conclusion that a person of ordinary skill in the art would look to the teachings of ALL references related to plastic substrates irrespective of the field with which the reference is concerned. The Examiner's combinability arguments, therefore, lead to the inevitable and overwhelmingly obvious conclusion that the Examiner is simply picking and choosing disclosures contained in unrelated references to arrive at Applicants' claimed repair coating process.

As the Examiner's combination of Richard, Brehm and Maag are erroneously based on isolated pieces of each of these references, the Examiner is engaging in impermissible hindsight reconstruction, and therefore the Examiner has failed to establish a prima facie case of obvious. Accordingly, Applicants respectfully request the Examiner withdraw all rejections predicated on the combination of Maag, Richard and Brehm.

In addition, Applicants respectfully assert that Richard is non-analogous prior art, and therefore cannot form the basis for a 35 USC § 103 rejection. Indeed, Richard is neither in the field of automotive repair coatings, nor reasonably pertinent to the particular problem with which Applicants were concerned.

To the contrary, Richard indicates at column 1, lines 6-10 that his "invention relates to a method for improving the adhesion between vinyl resin layers such as are used as the wear layer on vinyl floor and wall tile and acrylate urethane topcoats." It becomes readily evident upon a closer review of Richard that Richard relates to vinyl floor covering manufacturing, and NOT to automotive repair coating processes for automotive bodies or parts thereof in accordance with Applicants' claimed coating process.

In contrast, Applicants expressly state in the claims and at page 1, lines 5-8 that their "invention relates to a process for multilayer coating, in particular repair coating of substrates," wherein the process is "used in the field of automotive and industrial coatings."

Furthermore, Richard is not reasonably pertinent to the problem with which Applicants were concerned. Indeed, Richard fails to indicate anywhere therein that his method either would, or could produce a coating composition that when

used in an automotive repair coating process in accordance with Applicants' claimed invention would exhibit all of the following characteristics: a) excellent adhesion to a metallic substrate, b) no edge marks when overcoated with further coating layers, and (c) a balanced relationship between good stability and good flow.

In fact, column 1, lines 27-39 indicates that Richard is concerned with improving the adhesive strength of the bond between the acrylated urethane top-coat resin layer and the vinyl floor layer to which the top-coat is applied. Nowhere does Richard ever mention that his coating composition or any ingredient utilized therein can be successfully used in an automotive repair coating process in accordance with Applicants' claimed invention. More particularly, Richard is dealing exclusively with compositions related to vinyl floor coverings—and not metallic substrates. Although the Examiner asserts that Richard is combinable with Maag due to Maag's reference to plastic substrates, Applicant's respectfully assert that a person of ordinary skill in the art would never look to Richard in the first instance as it is non-analogous prior art.

As Richard fails to indicate anywhere therein that his coating composition either would, or could produce an acceptable automotive repair coating possessing the coating characteristics afforded by Applicants' claimed repair coating process, Richard would not have logically commended itself to the attention of a person of ordinary skill in the art seeking to produce an automotive repair coating possessing the characteristics of a coating produced in accordance with Applicants' claimed repair coating process. Accordingly, as Richard is neither in the field of Applicant's endeavor, nor reasonably pertinent to the particular problem with which Applicants were concerned, Applicants respectfully assert that Richard is non-analogous prior art that cannot form the basis for a 35 USC § 103 rejection. Applicants, therefore, respectfully request that the Examiner withdraw all of the rejections predicated on Richard.

Summary

In view of the foregoing remarks, Applicants respectfully submit that this application is in condition for allowance and such action is requested. In order to expedite disposition of this case, the Examiner is invited to contact Applicants'

representative at the telephone number below to resolve any remaining issues. Should there be a fee due which is not accounted for, please charge such fee to Deposit Account No. 04-1928 (E.I. du Pont de Nemours and Company).

Respectfully submitted,

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Dated: April 29, 2004